

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Kevin T. Jones, Melissa Beebe, Shafali Rastogi
Assignee: Dell Products L.P.
Title: Flexible Ordering of Inventory From Material Sources According to
Material Requirements for Manufacturing Operations
Serial No.: 09/774,330 Filing Date: January 31, 2001
Examiner: Susanna M. Diaz Group Art Unit: 3623
Docket No.: DC-02829 Customer No.: 33438

Austin, Texas
September 26, 2005

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**PRE-APPEAL BRIEF REQUEST FOR REVIEW
AND STATEMENT OF REASONS**

Sir:

Applicant requests review of the Final Rejection in the above-identified application. No amendments are being filed with the request. This request is being filed with a Notice of Appeal. The following sets forth a succinct, concise, and focused set of arguments for which the review is being requested.

CLAIM STATUS

Claims 1 - 16 and 22 - 31 stand rejected under 35 U.S.C. § 101. Claim 25 stands rejected under 35 U.S.C. § 112. Claims 1 - 6 and 8 - 31 stand rejected under Mukhopadhyay, "Optimal Scheduling of Just-in-Time Purchase Deliveries," (Mukhopadhyay). Claim 7 stands rejected under Mukhopadhyay in view of Jenkins, et al., U.S. Publication No. US 2002/0188499 (Jenkins).

REMARKS

The following remarks provide applicants' position regarding how the claims distinguish over the art of record. While not discussed herein, all the arguments presented regarding hindsight reconstruction and suggestion to combine are maintained.

The present invention generally relates to scheduling delivery of materials from in-house and external inventories for use in manufacturing items. Deliveries are scheduled according to material requirements for manufacturing operations.

Mukhopadhyay discloses a just-in-time (JIT) system which addresses the issue of delayed or early delivery of materials to work centers that have limited unloading facilities. Mukhopadhyay provides a proposed solution to this issue via a methodology for obtaining optimal delivery schedules for JIT purchases. The methodology provides an algorithm based decision support system that provides unloading schedules which are suitable for daily JIT delivery planning.

The Examiner maintains that Mukhopadhyay discloses that “all manufacturing is performed in response to customer orders” and that “the nature of the customer orders establishes the material requirement”. (Final Office action, Page 4.) The portion of Mukhopadhyay to which the examiner refers sets forth:

The plan manufactures power transformers for industries and utility companies and is located in the Midwest USA. . . . The management at the plant level was convinced of the benefits of JIT purchasing and decided to adopt it. Local suppliers of raw materials were developed within a radius of 30 miles of the plant. the major raw materials were grouped into four categories, each supplied by one supplier: sheet metal and steel rolling stock, copper wire of various sizes, connectors and circuit elements, and paints, oils and consumables. (Mukhopadhyay, Paragraph 7.)

When discussing the JIT system for which the unloading schedules are provided, Mukhopadhyay sets forth:

A long-term projection of the requirement of each category is conveyed to each supplier every six months and updated every month for them to plan for procurement and supply. Every day the production planning department prepares a shop floor schedule for the following day's shop loading. Using the bill of material, this loading is broken down into requirements of various raw materials including the sizes and quantity. At noon this breakdown is transmitted electronically to the four suppliers who then get the materials ready for following day's delivery. In the morning the trucks arrive at the unloading dock where the materials are unloaded and taken directly to the shop for operations. Typically, ten to 15 truckloads arrive every morning. The system worked very well owing to the meticulous planning on the part of the staff and the excellent co-operation of the suppliers who have now got the hang of it and realize the benefits to themselves. But all this is threatened because of one problem – the company has only one unloading dock. The planning is such that the trucks are given due time to coincide with the due time at the shop floor. When the trucks arrive in the morning, there is usually a queue of five to ten trucks waiting to be unloaded (due to the range of due times being very narrow). The

unloading of many of the trucks is delayed, and some of the trucks are unloaded earlier than the scheduled production time. (Mukhopadhyay, Paragraph 7.)

To address this issue, Mukhopadhyay sets forth:

A decision support system is developed using the algorithm as the source of optimization. The [sic.] demonstrated speed of execution makes it possible for the planners to use it for generating the truck unloading schedule in seconds. They can then transmit this schedule to the suppliers along with their daily order list. The suppliers now know exactly when their particular truck is schedule to start and complete unloading. Any last minute changes can be easily accommodated by a quick rerun of the program. Given that the travel time is quite accurately known (even in cities with congestion like Chicago, local radio stations continually broadcast accurate current travel times between various points), suppliers can plan their loading and despatching [sic.] schedule accurately. (Mukhopadhyay, Paragraph 48.)

Nowhere in the cited portions of Muhopadhyay, nor anywhere else within Muhopadhyay that Applicant can detect is there any disclosure or suggestion of determining a material requirement based upon customer orders as required by claim 1. Additionally, nowhere in Muhopadhyay is there any disclosure of scheduling delivery based upon whether a following truck has a material delivery time after a material need by time, as required by claims 12, 13 and 16. These deficiencies of Muhopadhyay are not resolved by Jenkins.

Jenkins discloses a system for ensuring manufacturing order fulfillment, specifically addressing supply conflicts such as unexpected delays in production by rerouting and reapplying resources. More specifically, Jenkins discloses time-phased inventory plans that meet customer requirements by ensuring that a company is carrying the right inventory at the right locations. Jenkins discloses time-phased storage and flow of a given product's supply to match demand by creating an inventory strategy that includes deployment plans, master production schedules, and procurement requirements.

Mukhopadhyay and Jenkins, taken alone or in combination, do not teach or suggest a method for scheduling delivery of material to a manufacturer with a plurality of manufacturing lines which includes determining a material requirement for an operation of at least one operation on a manufacturing line of the plurality of manufacturing lines, *the material requirement being based upon customer orders*, and scheduling delivery of material *to meet the material requirement from an available inventory of material to the operation on the manufacturing line*, all as required by claim 1. Accordingly, claim 1 is allowable over

Mukhopadhyay and Jenkins. Claims 2 - 11 depend from claim 1 and are allowable for at least this reason. Claims 17 – 20 and 22 – 25 are allowable for at least substantially the same reasons.

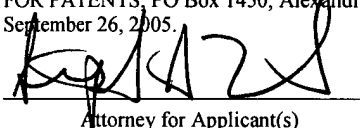
Additionally, Mukhopadhyay and Jenkins, taken alone or in combination, do not teach or suggest a method for scheduling deliveries of material which includes *when a following truck has a material delivery time after the material need-by time, determining whether a later opportunity to request the identified material exists*, much less if a later opportunity exists, delaying requesting the identified material and scheduling a delivery of the identified material, and if a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the operation on the next truck, all as required by claim 12. Accordingly, claim 12 is allowable over Mukhopadhyay and Jenkins. Claims 21 and 31 are allowable for at least substantially the same reasons.

Additionally, Mukhopadhyay and Jenkins, taken alone or in combination, do not teach or suggest a method for scheduling deliveries of material which includes *determining whether a following truck scheduled for delivery to the operation after the next truck has a material delivery time before the material need-by time of the material requirement*, much less when the following truck has a material delivery time before the material need-by time, delaying processing of the material requirement, and if the following truck has a material delivery time after the material need-by time, determining whether a later opportunity to request the identified material exists, much less when a later opportunity exists, delaying requesting the identified material and scheduling a delivery of the identified material, and if a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the operation on the next truck, all as required by claim 13. Accordingly, claim 13 is allowable over Mukhopadhyay and Jenkins. Claims 14 and 15 depend from claim 13 and are allowable for at least this reason. Claims 26 – 30 are allowable for at least substantially the same reasons.

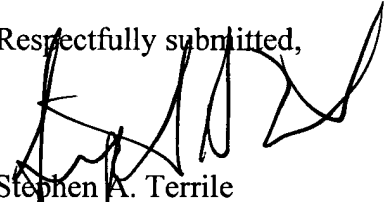
Additionally, Mukhopadhyay and Jenkins, taken alone or in combination, do not teach or suggest a method for scheduling deliveries of material which includes *determining whether a following truck scheduled for delivery to the operation after the next truck has a material delivery time before the material need-by time of the material requirement*, much less when the following truck has a material delivery time before the material need-by time, delaying

processing of the material requirement, much less such a method that further includes when the following truck has a material delivery time after the material need-by time, determining whether a later opportunity to request the identified material exists, and if a later opportunity exists, delaying requesting the identified material and scheduling a delivery of the identified material and if a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the operation on the next truck, all as required by claim 16. Accordingly, claim 16 is allowable over Mukhopadhyay and Jenkins.

In view of the arguments set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, please telephone the undersigned.

I hereby certify that this correspondence is being is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop AF, COMMISSIONER FOR PATENTS, PO Box 1450, Alexandria, VA 22313-1450, on September 26, 2005.	
 Attorney for Applicant(s)	9/26/05 Date of Signature

Respectfully submitted,


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